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CALIFORNIA STATE BOARD OF HEALTH

Weekly

Bulletin

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THE MODERN CONTROL OF DIPHTHERIA, BY MEANS OF THE PUBLIC HEALTH NURSE AND THE BACTERIOLOGICAL LABORATORY.

The control of diphtheria brings into use certain varied methods, involving action by several officials, so as to cause confusion in the minds of many people who do not understand the proper procedure. As a matter of fact, the methods used in the control of diphtheria are simple, but they should be applied with equal vigor to both patient and contacts. This may tend to create the impression of a complicated process. It is really a case of group action applied group to group—health officer, public health nurse, and bacteriologist dealing with patient, members of his family and other contacts.

In order to clarify the methods and to outline their sequence, Dr. Allen F. Gillihan, district health officer, has taken a hypothetical case, outlined the action taken at required intervals, and has drawn a chart to present his exposition graphically. The text should be read along with the use of the chart in order that each detail may be understood perfectly.

Column A.

A family of five, mother, two boys and two girls. They lived in a two-roomed cottage located near the edge of town about seven miles from the health office.

Having a well equipped public health laboratory and public health nurses always convenient, the city was able to cooperate with the physicians by taking nose and throat swabs of sus-

pected cases for them, delivering these swabs at the local laboratory, and seeing that the reports from the laboratory reached the physician as early as possible next morning.

One of the boys of this family was sick, and a physician was called in. Finding that the boy had a suspicious looking throat, the doctor requested the health officer to send a nurse to take a swab and to let him know what the laboratory reported.

Column B—May 1st.

Next morning the physician was notified that the laboratory reported finding diphtheria bacilli in the specimen. He gave the patient a curative dose of diphtheria antitoxin, and to the other four members of the family he gave smaller or immunizing doses of antitoxin. This was a poor family and the physician was able to secure the antitoxin free of charge through the local health office.

Column C—May 2d.

The family was placed in quarantine by the health officer. This is a requirement of the state law.

Column D—May 15th.

In about two weeks the patient had fully recovered, and, as required by the State regulations for the Control of Diphtheria (Special Bulletin No. 5) under Rule 9, the physician duly notified the local health authority of the boy's recovery, indicating that he was finished with the case. The public health control of an infectious disease

does not terminate with the completion of treatment of the case; this is shown by the further action required before this family could be released from control. Although the doctor reported that this boy was well again by May 15th, it was not until June 11th

officer's representative, and examined in the health office laboratory, proved to be negative. The state regulations require that official release cultures shall be taken at intervals of not more than one week, and not less than forty-eight hours.

MODERN CONTROL OF DIPHTHERIA BY THE HEALTH OFFICER PUBLIC HEALTH NURSE AND BACTERIOLOGICAL LABORATORY

DIPHTHERIA FAMILY	SWAB FOR DIAG MAY 1 ST	ACTION BY HEALTH DEPT MAY 2 ND	MAY 15 TH	SWABS BY HEALTH DEPARTMENT FOR RELEASE							JUNE 11 TH	
				E	F	G	H	J	K	L		M
				MAY 16 TH	MAY 18 TH	MAY 23 RD	MAY 27 TH	MAY 29 TH	JUNE 3 RD	JUNE 6 TH	JUNE 10 TH	
			D									N
BOY DIPHTHERIA	+	QUARANTINE	PHYSICIAN REPORTS PATIENT HAS RECOVERED	—	—			—	—	—	—	RELEASED
MOTHER		ESTABLISHED				+	—		—	—	—	FROM
SISTER		—				+	+	—	—		—	QUARANTINE
BROTHER		STATE LAW				+	—		+	—	—	NO
SISTER		REQUIREMENT				+	—		—		—	FUMIGATION
VISITS FROM HEALTH DEPT	1 ST	2 ND	—	3 RD	4 TH	5 TH	6 TH	7 TH	8 TH	9 TH	10 TH	11 TH

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(Column N), nearly four weeks later, before the health officer could safely let this family out of quarantine.

Column E—May 16th.

Culture taken from the nose and throat of the patient by the health

Column F—May 18th.

Having secured a negative culture from the patient, it remained to be seen if the throats of the other members of the family were also free from diphtheria organisms. It will be

remembered that each of them had received an immunizing dose of diphtheria antitoxin and could not take the disease until the immunizing effect of this dose should wear out, usually for several weeks at least. The laboratory reported that the other four members of this family all had virulent diphtheria organisms in their throats and, in so far as their associating with others was concerned, they were as capable of giving diphtheria as the patient himself had been at any time during his illness. Each one of them, even if they had not been sick, could have given diphtheria to persons with whom they came in contact. They had become diphtheria "carriers." Going back to Column D or E—if the quarantine had been raised about this time, the patient would not have transmitted the disease, because he did not have the organisms to transmit. But, suppose the health officer had relied on old methods of control and had fumigated the place and released the family. Granted that the fumigation was most thoroughly done, nevertheless, when these children returned to school, three of them could have transmitted the disease to their classmates. The world would most probably have said that fumigation had not been properly done. Even if the house had accidentally caught fire and burned to the ground while being fumigated, still this same criticism would apply, for the fumigation, even then, was not complete. **One can not remove organisms from a child's throat by fumigating the room in which he or some other child had been sick.** Thus it will be seen that fumigation is really of no value in the final cleanup after diphtheria, but the discovery and the getting rid of the organisms from carriers' throats is of vital importance. Although mild alkaline sprays or other medication may be of some value, still time is the essence of all treatment in this direction. Most all carriers clean up in a few weeks; only a few, those with enlarged tonsils, or inflamed mucous membranes, persist longer.

Column G—May 23d.

Swabs taken of the carriers discovered at last visit show that they have all cleaned up except one girl.

Column H—May 27th.

This girl's throat has cleaned up.

Column J—May 29th.

Having secured a negative culture from the last positive in the home, an effort is now made to obtain negative cultures from every member of the

household. But this group of cultures shows that the second boy is now a carrier, while everybody else in the home, including the patient, is negative.

It reminds one of the old game of "Hunt the Slipper"; at one round, one person has it, but it has been passed along to a companion before the next round.

Column K—June 3d.

The second boy is now negative.

Column L—June 6th.

Cultures from every person in the house prove to be negative.

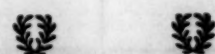
Column M—June 10th.

A second set of cultures taken four days later again proves them all to be negative. That is, everybody in the house has had two consecutive negative cultures since the last time a positive was discovered on the place.

Column N—June 11th.

This family was released from quarantine, and no fumigation was done. It was not necessary; if there had been any diphtheria organisms outside of those in people's throats, they would have long since died naturally, and cultures have shown that all the throats on the premises are now free from diphtheria organisms. No cases of diphtheria developed from contact with this family.

This all required eleven visits from the health office, but a focus of diphtheria, a center from which an epidemic could start, was positively stamped out.



MORBIDITY.*

Diphtheria.

122 cases of diphtheria have been reported, as follows: Alameda 1, Albany 1, Berkeley 6, Oakland 10, Butte County 3, Chico 6, Contra Costa County 2, Kern County 2, Hanford 1, Los Angeles County 6, El Monte 1, Long Beach 2, Los Angeles 44, Pasadena 1, Whittier 2, Torrance 1, Merced 1, Riverside 1, Sacramento 1, San Bernardino County 1, San Bernardino 1, San Diego 2, San Francisco 16, Stockton 2, Redwood City 2, Solano County 1, Santa Rosa 1, Sutter County 1, Ventura 1, Yolo County 1, Woodland 1.

Scarlet Fever.

204 cases of scarlet fever have been reported, as follows: Berkeley 11, Oakland 20, Piedmont 1, San Leandro 1, Butte County 1, Calaveras County 1, Contra Costa County 1, Fresno County 1, Humboldt County 2, Kern County 2, Los Angeles County 7, Alhambra 5, El Monte 2, Glendale 4, Hermosa 1, Huntington Park 1, Long Beach 15, Los Angeles 28, Manhattan Beach 1, Monrovia 2, Pasadena 7, Pomona 2, Santa Monica 2, West Covina 1, Monterey Park 1, Banning 1, Colton 2, San Bernardino 1, Escondido 1, La Mesa 1, San Diego 7, San Francisco 23, San

*From reports received on March 21st and 22nd for week ending March 19th.

Joaquin County 2, Stockton 4, San Luis Obispo County 2, Burlingame 4, Santa Clara County 10, Gilroy 3, Los Gatos 1, Mountain View 2, San Jose 13, Healdsburg 1, Stanislaus County 2, Modesto 1, Tulare County 2, Ventura 1.

Measles.

2865 cases of measles have been reported, as follows: Alameda County 1, Alameda 6, Albany 8, Berkeley 107, Oakland 70, Piedmont 7, San Leandro 6, Sutter Creek 10, Gridley 2, Angels Camp 5, Colusa County 1, Williams 16, Contra Costa County 13, El Dorado County 2, Fresno County 40, Kingsburg 3, Glenn County 3, Willows 28, Humboldt County 1, Eureka 3, Kern County 31, Bakersfield 2, Maricopa 1, Taft 3, Kings County 10, Hanford 6, Lake County 10, Lakeport 9, Los Angeles County 213, Alhambra 35, Arcadia 7, Beverly Hills 5, Burbank 7, Compton 12, Covina 2, El Monte 8, El Segundo 2, Glendale 60, Glendora 2, Hermosa Beach 2, Huntington Park 18, Long Beach 151, Los Angeles 823, Monrovia 35, Pasadena 89, Pomona 19, Redondo Beach 20, San Fernando 1, San Gabriel 7, Santa Monica 21, Sierra Madre 1, South Pasadena 8, Whittier 8, Lynwood 3, Hawthorne 12, South Gate 4, Monterey Park 8, Signal Hill 3, Maywood 20, Tujunga 1, San Rafael 18, Sausalito 6, Merced County 4, Merced 4, Monterey County 42, Monterey 1, Napa 3, Grass Valley 3, Lincoln 7, Beaumont 1, Riverside 11, Sacramento 24, San Bernardino County 2, Colton 5, Ontario 1, Redlands 3, San Bernardino 1, El Cajon 6, La Mesa 3, San Diego 272, San Francisco 163, San Joaquin County 14, Lodi 1, Stockton 12, San Mateo County 5, Burlingame 4, Redwood City 28, Santa Barbara County 2, Santa Maria 2, Santa Clara County 10, Gilroy 14, Los Gatos 10, Palo Alto 40, San Jose 7, Watsonville 24,

Mt. Shasta City 6, Solano County 7, Sonoma County 18, Stanislaus County 4, Modesto 3, Newman 2, Turlock 1, Sutter County 5, Yuba City 2, Trinity County 25, Tulare County 3, Dinuba 1, Lindsay 5, Sonora 3, Yolo County 11, Davis 3, Woodland 1, Wheatland 1.

Smallpox.

26 cases of smallpox have been reported, as follows: Oakland 14, Merced County 1, Sacramento 1, San Bernardino 1, San Francisco 1, San Joaquin County 2, Lodi 1, Sunnyvale 4, Turlock 1.

Typhoid Fever.

10 cases of typhoid fever have been reported, as follows: Oakland 2, Long Beach 1, Los Angeles 4, Orange County 1, Sacramento 1, Marysville 1.

Whooping Cough.

149 cases of whooping cough have been reported, as follows: Berkeley 37, Oakland 21, Colusa County 3, Fresno County 3, Kingsburg 1, Willows 2, Eureka 3, Los Angeles County 4, Alhambra 5, Glendale 2, Long Beach 10, Los Angeles 20, Monrovia 1, Pasadena 3, San Gabriel 6, San Diego 3, San Francisco 22, San Joaquin County 1, Manteca 2.

Meningitis (Epidemic).

5 cases of epidemic meningitis have been reported, as follows: Sacramento 1, San Francisco 1, Los Angeles 3.

Poliomyelitis.

Fresno County reported one case of poliomyelitis.

Jaundice (Epidemic).

San Diego reported one case of epidemic jaundice.

COMMUNICABLE DISEASE REPORTS.

Disease	1927				1926			
	Week ending			Reports for week ending Mar. 19 received by Mar. 22	Week ending			Reports for week ending Mar. 20 received by Mar. 23
	Feb. 26	Mar. 5	Mar. 12		Feb. 27	Mar. 6	Mar. 13	
Anthrax.....	0	0	0	0	0	0	0	1
Botulism.....	0	0	0	0	0	0	0	0
Chickenpox.....	852	879	742	563	464	551	438	394
Diphtheria.....	145	133	142	122	133	115	99	132
Dysentery (Bacillary)....	3	0	0	1	1	1	0	2
Encephalitis (Epidemic)...	2	3	2	0	1	5	1	2
Gonococcus Infection.....	85	120	77	81	64	109	88	70
Influenza.....	79	104	86	81	393	163	64	73
Jaundice (Epidemic)....	1	3	0	1	0	0	0	0
Leprosy.....	0	1	0	0	1	0	0	0
Malaria.....	0	0	1	1	3	4	0	0
Measles.....	3365	3995	3932	2865	104	124	161	149
Meningitis (Epidemic)...	3	1	3	5	12	3	1	4
Mumps.....	245	299	329	238	413	340	443	334
Paratyphoid Fever.....	0	0	0	0	0	0	0	0
Pneumonia (Lobar).....	159	62	73	57	165	85	78	51
Poliomyelitis.....	3	1	0	1	2	3	2	6
Rabies (Animal).....	12	8	12	7	8	5	5	7
Rabies (Human).....	0	0	0	0	0	0	0	0
Rocky Mt. Spotted Fever...	0	0	0	0	0	0	0	0
Scarlet Fever.....	255	243	267	204	169	187	145	152
Smallpox.....	29	16	18	26	132	183	174	98
Syphilis.....	128	156	127	96	88	140	108	93
Tetanus.....	0	1	0	0	1	2	1	1
Trachoma.....	0	23	2	3	38	2	1	1
Trichinosis.....	0	0	0	2	0	0	0	0
Tuberculosis.....	174	228	210	184	123	231	244	158
Typhoid Fever.....	5	7	4	10	7	6	5	10
Typhus Fever.....	0	0	0	0	1	0	0	0
Whooping Cough.....	117	139	168	149	72	76	69	77
Totals.....	5662	6422	6195	4697	2395	2335	2127	1815